Docket	:	A.12-03-013
Exhibit Number	:	DRA-21
Commissioner	:	Sandoval
ALJ	:	Wilson
Witness	:	Mark Bumgardner

DIVISION OF RATEPAYER ADVOCATES
CALIFORNIA PUBLIC UTILITIES COMMISSION

Report on Additional Information Concerning the Proposed Big Bear Boulevard Undergrounding Project of the Bear Valley Electric Service Division

San Francisco, California
October 2, 2013

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I. INTRODUCTION

This exhibit presents the analysis and recommendations of the Division of Ratepayer Advocates (DRA) regarding the additional information that Bear Valley Electric Service Division ("Bear Valley" or "BVES") submitted concerning its proposed Big Bear Boulevard Undergrounding Project (Undergrounding Project).

II. SUMMARY OF FINDINGS AND RECOMMENDATIONS

Below is a summary of the information that has come to light since November 2012 about the condition of the power poles that are part of BVES' Undergrounding Project. DRA's recommendations based on this new information are also summarized below.

1. BVES has not maintained the actual General Order (GO) 165 strength values of the power poles on Big Bear Boulevard.
2. Assuming the power poles along Big Bear Boulevard retain 100% of their original strength, sixty-seven poles fail to meet GO 95 standards.[1]
3. The average age of the power poles on Big Bear Boulevard that do not meet GO 95 standards is twenty-three years old. Four of the Big Bear Boulevard poles that fail to meet GO 95 standards were installed between two and ten years ago.
4. Only four of the power poles on Big Bear Boulevard that fail to meet GO 95 standards were over the age of twenty-three years.[2]
5. The funds for the design, construction, installation and maintenance of the power poles along Big Bear Boulevard have been included in BVES's historical rates.

[1] See Appendix 2, lines 1-67

[2] See Appendix 2, lines 1-4

6. BVES has not properly designed, constructed, installed or maintained the power poles along Big Bear Boulevard in a manner that complies with GO 95 standards.
7. BVES' ratepayers should be required to pay only the proportionate share of Bear Valley's ownership to repair or replace the three power poles on Big Bear Boulevard that have GO 165 scores in Range 3 that failed to meet GO 95 standards.[3]
8. BVES' shareholders, and the co-owners of the power poles (Verizon), should be responsible for the costs of restoring, reinforcing, repairing or replacing the other sixty-four power poles on Big Bear Boulevard to ensure they are in compliance with GO 95, Rule 44.3.
9. BVES shareholders should be responsible for the costs of restoring, reinforcing or replacing the power poles on Big Bear Boulevard that failed GO 95 because of inadequate guy wires.
10. The Commission should deny BVES' request for ratepayer funding to underground the power lines on Big Bear Boulevard in this proceeding.
11. The Commission should order that, prior to seeking authority in the future for this Undergrounding Project; BVES be required to inform its ratepayers of the alternative costs of BVES' share of replacing overhead power lines verses BVES' cost to underground the Big Bear Boulevard power lines; and, obtain raterpayer consent to include these additional costs in rates.

[3] See Appendix 2, lines 4, 19 and 32. The other two power poles in Rang 3, did not fail GO 95, Rule 44.3 (See Appendix 2, lines 79 and 80)

12. The Commission opens an investigation into BVES' GO 95 non-compliance to determine the cause of the problems and whether penalties should be assessed against BVES.

III. BACKGROUND

On February 16, 2012, Golden State Water Company filed a General Rate Case (GRC) Application seeking a rate increase for its Bear Valley Electric Service Division (BVES or Bear Valley). DRA and other Intervenors submitted testimony in July, 2012, and evidentiary hearings were held from September 17–19, 2012. Opening Briefs were to be filed on November 9, 2012.

Just days before the Opening Briefs were due, BVES notified DRA and other parties that it had received a report from its consultant that 54 or 55 of the 111 poles along Big Bear Boulevard had failed to meet the safety factor requirements of Rule 44.3 of General Order (GO) 95. On the basis of that report, BVES asked that the briefing schedule be suspended, and the record reopened to take additional evidence.

DRA neither supported nor opposed Bear Valley's Motion since BVES had provided insufficient information for DRA to make any recommendation at all. DRA proposed a schedule to allow all parties to investigate the allegations if BVES' request to open the record was granted.

When DRA learned that Bear Valley was claiming that the poles are unsafe pursuant to GO 95, and using this claim to justify its undergrounding project, DRA asked the Commission's Safety and Enforcement Division (SED) for assistance in evaluating the poles along Big Bear Boulevard pursuant to GO 95. SED assigned a utilities engineer, Mr. Koko Tomassian, to assist DRA. Mr. Tomassian has been assisting DRA in drafting data requests and evaluating the responses to them, and has provided his own assessment of the pole loading calculations submitted by Bear Valley and GO 95 compliance issues.

On January 7, 2013, by an Amended Assigned Commissioner's Scoping Memo and Ruling, the Commission adopted DRA's proposed schedule to accommodate the "diverse interests and prior commitments of the parties and their

representatives."[4] The schedule originally set in the Amended Scoping Memo had Bear Valley serving direct testimony on January 11, 2013, with Interested Parties serving testimony on March 18, 2013, and Rebuttal testimony being served April 5, 2013.

On January 23, 2013, after unsuccessfully attempting to get specific information about the safety factors of the poles on Big Bear Boulevard, DRA filed a Motion to Amend the Scoping Memo and Ruling to Set a Date for the Filing of Briefs and Submission of the Proceeding on the Current Record, or, in the Alternative, to Revise the Schedule.[5] On February 7, 2013, the Assigned Administrative Law Judge (ALJ) denied DRA's request to have a date set to submit briefs, but granted DRA's request to revise the schedule, setting April 18, 2013 as the date for DRA/ intervenor testimony. In doing so, the ALJ said that, "… if parties have concerns regarding the timeliness or completeness of data requests, they should raise such disputes with me before requesting a change to the proceeding. In the future, I would like to hear about discovery disputes sooner rather than later to avoid any further delays."[6]

On March 25, 2013, after unsuccessful attempts to get responses to data requests for specific information about the safety of the poles along Big Bear Boulevard, DRA filed a Motion to Compel in which DRA asked for a ruling ordering Bear Valley to provide responses to certain Data Request questions.

DRA's Motion to Compel was granted and the schedule was revised, setting October 2, 2013 as the due date for DRA and Intervenor testimony. Pursuant to that schedule, DRA submits this report and the assessment of the Commission's SEC.

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[4] Amended Assigned Commissioner's Scoping Memo and Ruling, p. 4.

[5] Motion of the Division of Ratepayer Advocates to Amend the Scoping Memo and Ruling to Set a Date for the Filing of Briefs and Submission of the Proceeding on the Current Record, or, in the Alternative, to Revise the Schedule (DRA Motion to Amend Scoping Memo), p. 5.

[6] A.12-02-013 Ruling by email dated February 7, 2013, regarding DRA's motion of January 23, 2013.

IV. DISCUSSION/ANALYSIS

DRA will seek the admission of the report of the SEC, which is attached to this Report as Appendix 1. For ease of reference, DRA provides a brief summary of excerpts of the SED Report to place DRA's recommendations in context.

SED's Assessment

As SED notes, because of the Commission's authority as a regulatory body, the Commission, and accordingly SED, are not in a position to mandate the use of, or endorse particular software or programs. Therefore, when assessing safety factor compliance with minimum requirements, SED did not parse all of the numerous individual calculations which comprise the inputs used to generate the calculation.

It is DRA's understanding from SED that the most accurate way of executing data collection to feed into pole load calculations is to physically measure each data input for each pole. If this is not possible, due to resource limitations, physical limitations, the sheer volume of measurements, or time considerations, there are often acceptable assumptions or generalizations that can be made. There are also some assumptions that have to be made in regards to the relationship between various elements attached to or acting upon a pole.[7]

In the course of SED's review of BVES' original pole-loading calculations, and in conjunction with conversations with BVES and its pole loading consultant, SED identified several key assumptions BVES and its consultant made and data sources they used, instead of using more accurate data that was readily available. Those assumptions included: 1) an unscientifically determined de-rating factor for remaining pole strength, 2) assumptions for communication facility arrangement and construction, and 3) conductor tension assumptions for power lines.[8] Given these factors, it would have been optimal if SED possessed the resources capable to physically measure data for each pole and conduct its own independent analysis.

[7] See Appendix 1, p. 1, Section 2.0 Background.

[8] See Appendix 1, bottom of page 1 and top of page 2

BVES did not provide the information regarding the actual remaining strength from its intrusive inspections for the power poles along Big Bear Boulevard, and provided "Range" data on the remaining strength of the power poles. Range 1 was assigned to any power pole for which the remaining strength was above 85%. Range 2 was assigned to any power pole for which the remaining strength was between 70% through 85%, and Range 3 was assigned to any power pole for which the remaining strength was below 70%.

As a result, it was impossible for SED to exactly apply the de-rating values from the grouped ranges to recalculate the revised safety factor calculations and obtain a totally accurate assessment of each pole's compliance with GO 95 minimum strength requirements. SED instead asked BVES to run all of the calculations at 100% remaining strength. SED then conducted several assessments using high, mid, and low range de-rating factors to evaluate the remaining percentage strength of BVES' power poles.

SED found that, even with an assumed 100% remaining strength for the power poles along Big Bear Boulevard, sixty-seven power poles do not meet the safety requirements of GO 95, Rule 44.3.[9]

DRA's Analysis and Recommendations

General Order 95 , Rule 44.3 specifies that "Lines or parts thereof shall be replaced or reinforced before safety factors have been reduced (due to deterioration and/or installation of additional facilities) in Grade 'A' and 'B' construction to less than two-thirds of the construction safety factors specified in Rule 44.1. . ."

General Order 165 requires a utility to perform an intrusive inspection on wood poles over 15 years old which have not been the subject of an intrusive inspection over a ten year cycle.[10] For wood poles which passed the intrusive inspection, the utility is required to perform the next intrusive inspection over a

[9] See Appendix 2, lines 1-67

[10] GO 165, p. 4, Table 1

twenty year cycle.[11] It is DRA's understanding that all of the power poles on Big Bear Boulevard, have had intrusive inspections, but 2 poles did not have remaining strength data.[12]

BVES did not provide SED with the actual power pole remaining strengths for the power poles along Big Bear Boulevard. Thus, SED was unable to calculate the actual safety factors for the Big Bear Boulevard power poles. Even assuming the power poles on Big Bear Boulevard retained 100% of original strength sixty-seven of those poles does not meet the standards of GO 95, Rule 44.3.

The average age of the power poles that failed to meet GO 95 standards is twenty-three years old. Four of the power poles along Big Bear Boulevard that do not meet GO 95 standards were installed in 2011, 2010, 2004 and 2003.[13] In fact, half of the power poles installed in the last ten years along Big Bear Boulevard failed to meet GO 95, Rule 44.3 requirements.[14]

On the other hand, only four power poles over twenty-three years old do not meet GO 95 standards.[15] Thus, BVES' power poles installed over twenty-three years ago have a greater pass rate (60%) than power poles installed in the last ten years (50%).[16] It is alarming that sixty-seven power poles on Big Bear Boulevard, even assuming they retain 100% of their original strength, fail GO 95, Rule 44.3.

To better understand what process BVES used to design and install the poles that led to this situation, DRA sent BVES a data request asking who owns the poles along Big Bear Boulevard, and what procedures were followed by other entities when they installed equipment on those poles or otherwise modified them.[17] Based

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[11] GO 165, p. 4, Table 1

[12] See Appendix 1, p. 2, Section 3.0, p. 3, Section 4.0 and Appendix 2 lines 76 and 93.

[13] See Appendix 2, lines 64-67

[14] See Appendix 2, lines 64-67 failed and lines 98-101 passed.

[15] See Appendix 2, lines 1-4

[16] See Appendix 2, lines 1-4 failed and lines 73-78 passed

[17] Data Request DRA-MKB-046 attached as Appendix 3

on a review of its records as of the date of the response, BVES stated it had no information that provided a detailed description of the procedures other entities followed when placing equipment on BVES poles on Big Bear Boulevard.[18] The data request and responses are attached to this Report.

BVES did say that, with some exceptions, the poles along Big Bear Boulevard are jointly owned by BVES and Verizon.[19]

DRA also asked BVES to arrange a conference call with a BVES engineer familiar with the process Bear Valley follows for the replacement, design, and construction of power poles along Big Bear Boulevard.

BVES responded that it would not arrange for a conference call:

> ”BVES does not set up interviews between interveners and BVES staff regarding matters that are subject to a formal Commission Proceeding. Furthermore, for matters that are subject to a formal Commission proceeding, BVES personal are not authorized to provide information outside of formal discovery procedures authorized by applicable California law or Commission Rules of Practice and Procedures.”[20]

In D.12-01-032, the Commission formally included a record-keeping requirement in GO 165 that: “[t]he utility shall maintain records for . . . (2) the life of the pole for intrusive inspection activities.”[21] For many years prior, it has been state law in California that “[e]very public utility shall furnish and maintain …. equipment and facilities as shall promote the safety, health, comfort and convenience of its patrons, employees and the public, and shall be in all respects adequate, efficient, just and reasonable.”[22] It is questionable whether BVES has met its statutory requirement to provide safe and reliable service if it does not know something as

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[18] See Appendix 3, pp. 4 & 5, Q. 6.
[19] See Appendix 3, pp. 1 & 2, Q. 1.
[20] See Appendix 3, p. 2, response to Q. 2.
[21] GO 165, p. 2, Section III.C
[22] PU Code Section 451.

fundamental as the actual strength of the power poles along one of the main streets of its service territory.[23]

BVES' ratepayers have been paying Bear Valley to provide safe and reliable service. That includes paying Bear Valley to properly design, construct and install the power poles along Big Bear Boulevard.

In general, DRA considers the average life of a power pole to be far greater than 23 years. As can be seen in Appendix 2, all but seven power poles out of a group of 101 poles have greater than 85% of their original strength remaining[24] and this includes power poles as old as 67 years old.[25] The conclusion drawn from the data is that BVES has not properly designed, constructed, installed or maintained the power poles along Big Bear Boulevard. It should be the responsibility of BVES' shareholders and whatever other entity jointly owns the poles, to correct the deficiencies without additional funding from BVES' ratepayers.

DRA would agree to some ratepayer funding to replace BVES' ownership share of three power poles on Big Bear Boulevard whose GO 165 results were in Range 3 and failed GO 95, Rule 44.3.[26] However, if BVES is not the sole owner of those poles then the share of the other part owner(s) should not be charged to BVES ratepayers.

BVES' shareholders and the other owner of power poles along Big Bear Boulevard should be held responsible for the costs of reinforcing, repairing or replacing the other sixty-four power poles on Big Bear Boulevard so that they are in compliance with GO 95, Rule 44.3. In addition, BVES shareholders and the other owners of the power poles along Big Bear Boulevard should also be responsible for

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[23] See e.g., D.12-11-051, mimeo, p. 15: "When the Commission considers safe and reliable service, our commitment is to ensure that the utility has accurate records about all of its facilities, has a trained professional workforce, and takes appropriate actions to keep its system facilities safely operational in conformity with applicable laws, regulations and policies."

[24] See Appendix 2, power poles not in Range 1 lines 35, 19, 32, 76, 79, 80 and 93

[25] See Appendix 2, line 1 (any pole installed in 1946 is 67 years old.

[26] See Appendix 2, lines 4, 19 and 32.

the costs to repair the five power poles that failed GO 95 because their guy wires were inadequate.

DRA continues to recommend zero ratepayer funding to underground the Big Bear Boulevard power lines at this time.

DRA recommends that, in the future, before authorizing ratepayer funding for this Undergrounding Project, the Commission order BVES to inform its ratepayers of the alternative costs of BVES' share of replacing overhead power poles verses BVES's cost to underground the Big Bear Boulevard power lines; and, obtain ratepayer consent to include these costs in rates. BVES should also identify for its customers and the Commission whether the poles jointly owned with Verizon will be removed or left in place. The true cost should include information about how the cost of any non-BVES lines and equipment to be underground would be determined to ensure that the non-BVES participants pay their fair share so that those costs are not paid by BVES' customers.

DRA recommends that the Commission open an investigation into BVES' GO 95 non-compliance to determine the cause of the problems and whether penalties should be assessed against BVES.

Appendix 1- SED's Final Report

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

1.0 Objective

The California Public Utilities Commission's (CPUC) Safety and Enforcement Division (SED) was solicited by the Division of Ratepayer Advocates (DRA) to provide an assessment and determine the validity of claims made by Bear Valley Electric Service (BVES), in its General Rate Case (GRC) Application (A.) 12-02-013, that a segment of its poles along Big Bear Boulevard (BBB) were not compliant with safety standards set forth in General Order (GO) 95. SED was tasked with reviewing pole loading calculations submitted by BVES, in an effort to determine their accuracy and identify any GO 95 compliance issues.

2.0 Background

What has been often characterized as "safety of poles" in the context of this assessment can be better categorized as compliance with the minimum strength requirements set forth in GO 95. GO 95 governs the design, construction, and maintenance of overhead electrical lines for the purposes of safe and reliable operation. Section IV: *Strength Requirements for All Classes of Lines* of GO 95 sets forth the minimum strength requirements for all classes of lines.

In regards to pole strength, compliance is determined by conducting a pole load calculation, with appropriate loading conditions applied, which assesses the mechanical strength properties of a pole with respect to the loads the pole is subjected to. In the case of BVES' service territory, "heavy loading" conditions apply since the elevation exceeds 3,000 feet.[1] The end result of this pole load calculation is a single value, known as a safety factor (or factor of safety), which is then compared with the minimum values specified in *Table 4: Minimum Safety Factors* of GO 95 to determine compliance. A safety factor, when applied, can be considered to act as a buffer zone intended to shield against allowing the designed load on a structure exceed its capacity to withstand that load. These calculations can be onerous to perform by hand and often times software programs are utilized to expedite the process. Because of its authority as a regulatory body, the CPUC, and accordingly SED, are not in a position to mandate the use of or endorse particular software or programs. Therefore, when assessing safety factor compliance with minimum requirements, SED does not parse all of the numerous individual calculations which comprise the resulting safety factor value for each pole. Instead, SED assesses the assumptions made and data inputs used to generate the calculation. To that respect, a similar approach was used when assessing the original BVES-provided pole loading calculations for compliance with GO 95 requirements.

The most accurate way of executing data collection to feed into pole load calculations is to physically go out and measure each data input. However, due to resource limitations, physical limitations, the sheer volume of measurements, and time considerations there are often acceptable assumptions or generalizations made. When conducting pole load calculations, there is also a necessity to make numerous assumptions in regards to the relationship between various elements attached to or acting upon a pole and their effects. After a thorough vetting of the original BVES-provided pole loading calculations, and in conjunction with conversations with BVES and its pole loading consultant, I identified several key assumptions made and data sources used, in lieu of using more accurate data that was readily available. Those assumptions included an unscientifically

[1] "Heavy Loading" conditions apply in all parts of California where the elevation exceeds 3000 feet above sea level. These loading conditions correspond to a horizontal wind pressure of 6 lb/ft^2, a radial thickness 0.5 inches of ice on all conductors, and a temperature of 0° F at the time of maximum loading (see GO 95, Rule 43.1).

determined de-rating factor for remaining pole strength, assumptions for communication facility arrangement and construction, and conductor tension assumptions for power lines. I requested that BVES modify these assumptions and data sources with the more accurate available data, and then return the modified calculations, which were used as the basis for this assessment, as further addressed in Section *4.0 Initial Findings* below.

3.0 Assessment Methodology

To explain pole load calculations, which are inherently complex, in lay terms, one can divide the process into two major steps. The first is to address all factors (e.g., wind loads, ice loads, weight of facilities, arrangement of facilities, location of facilities, etc.) physically effecting the pole and their relationships to one another, and then running the computation to determine a safety factor value based on the physical factors. The second step involves relating those physical effects to the mechanical properties, typically determined empirically, of the pole itself. That is, once a safety factor value is determined, based on the physical factors affecting the pole, that value is then de-rated according to the strength characteristics of that particular pole to assess the pole's current condition. GO 165, which governs inspection and maintenance requirements for electric distribution companies, mandates that wood poles be "intrusively inspected" on a 20-year cycle. An intrusive inspection is an empirical process which typically involves boring into the core of a wood pole, near its base, in an effort to determine the percentage of strength remaining, as compared to the like-new condition, of that pole. This remaining strength percentage is then used to de-rate the safety factor value calculated in the first step, by the applicable percentage, to better determine the current state of the pole, taking into account the physical forces acting on the pole and the pole's capacity for withstanding those forces. For example:

> *Assume a safety factor calculation was completed for Pole A, and its safety factor was determined to be 4.0 (step one above). Let's also assume that an intrusive inspection of Pole A was completed and showed that Pole A had 75% remaining strength, as compared to its newly installed condition (step two above). The actual safety factor of Pole A would not be 4.0, as originally determined by the calculation alone, but its safety factor would be de-rated by 0.75 (reflecting 75% remaining strength) and the actual safety factor value would be 3.0 (e.g., 4.0 x 0.75 = 3.0).*

This de-ration is attributed to the deteriorated physical condition of the pole, from its brand new (i.e., design) condition, and is applied separately from the pole load calculation, as a 1:1 ratio, to the calculated safety factor value.

As explained in Section 2.0, I vetted BVES' original pole loading calculations and requested that BVES amend several assumptions and data sources to provide the most reasonably accurate safety factor value calculations (i.e., step one). However, although intrusive inspections were conducted on the poles along BBB, BVES was unable to procure the actual remaining percentage strength from its consultant. The only remaining strength data BVES was able to secure provided a range of possible remaining percentage strength values for each pole. Those ranges for remaining strength ("R.S." below) percentages were as follows:

- Range 1: R.S. > 85%
- Range 2: 85% ≥ R.S. ≥ 70%
- Range 3: R.S. < 70%

As a result, it was impossible to exactly apply the de-rating values (i.e., step two above) to the revised safety factor calculations and obtain a totally accurate assessment of each pole's compliance with GO 95 minimum strength requirements. Instead, I requested that BVES run all of their calculations at 100% remaining strength and I conducted several assessments using high-, mid-, and low-range de-

rating factors for the remaining percentage strength. Table 1 below shows the values used in completing the various assessments (high-, mid-, and low-range) for each range category provided.

Table 1 High-, mid-, and low-range remaining strength values used for assessment

Range Category	Remaining Percentage Strength		
	High-Range Value	*Mid-Range Value*	*Low-Range Value*
Range 1	100%	93%	86%
Range 2	85%	77%	70%
Range 3	69%	47%	25%

Without knowing exactly where in the range each pole's remaining strength value existed, the best assessment I could provide – which is what is presented in Section 4.0 – is a determination of how many poles, within each range category, of those high-, mid-, and low-range values would meet the minimum GO 95 strength requirements. However, there is insufficient data to determine how many of the poles in each range category fall within the high-, mid-, or low-range values. Hence, provided in Tables 4 and 5 are columns titled "Average," which indicate the average number of poles that meet the respective criteria within each range category, given that there is an even distribution of existing poles in that range category.

On jointly-used poles (i.e., poles with supply and communication facilities), which is the case for the poles along BBB and constitutes "Grade A construction," as defined in Rule 42 of GO 95, the minimum required safety factor for a new wooden pole is 4.0.[2] However, GO 95, Rule 44.3 specifies that, "Lines or parts thereof shall be replaced or reinforced before safety factors have been reduced (due to deterioration and/or installation of additional facilities) in Grades 'A' and 'B' construction to less than two-thirds of the construction safety factors specified in Rule 44.1..." thus allowing for a two-thirds reduction of the safety factor prior to violation. This means that a pole which was required to be installed with a minimum safety factor of 4.0 must be reinforced or replaced prior to its safety factor being reduced below 2.67 (e.g., 4.0 x ⅔ = 2.67). Thus a safety factor threshold of 2.67 was used to assess the compliance of the poles along BBB with GO 95 minimum requirements.

4.0 Initial Findings

Presented below are my initial findings, based upon the calculations and available data provided by BVES. There were a total of 101 poles in this study. Of the 101 poles, 2 poles did not have any remaining strength data and have been excluded, thus the bulk of the data presented is for 99 poles. Shown below in Table 2 is a representation of the distribution of poles amongst the various range categories and the duration of years the poles in this study have been in service.

Table 2 Overall Statistics - Age & Quantity of Poles by Range Category

Criteria	Remaining Pole Strength (S) Range Category			Total
	Range 1	*Range 2*	*Range 3*	
Poles In Service ≤ 5 yrs	5	0	0	**5**
Poles In Service ≤ 10 yrs	9	0	0	**9**
Poles In Service ≤ 15 yrs	9	0	0	**9**
Poles In Service ≤ 20 yrs	12	0	0	**12**
Poles In Service ≤ 25 yrs	86	0	4	**90**
Poles In Service > 25 yrs	8	0	1	**9**
Pole Quantity	**94**	**0**	**5**	**99**

Of the 99 poles in this study, 94 of them had remaining pole strengths greater than 85% (i.e., Range 1), indicating that there should be quite a bit of useful life remaining. It is also noteworthy that none of

[2] See GO 95, Table 4.

the 99 poles with remaining pole strength data available fell into the 70% - 85% remaining strength range (i.e., Range 2). Furthermore, 74 of the 99 poles, representing nearly 75% of the poles in the study, were installed between 20 – 25 years ago. Shown below in Figure 1 is the distribution of the poles in this study in accordance with the number of years they have been in service.

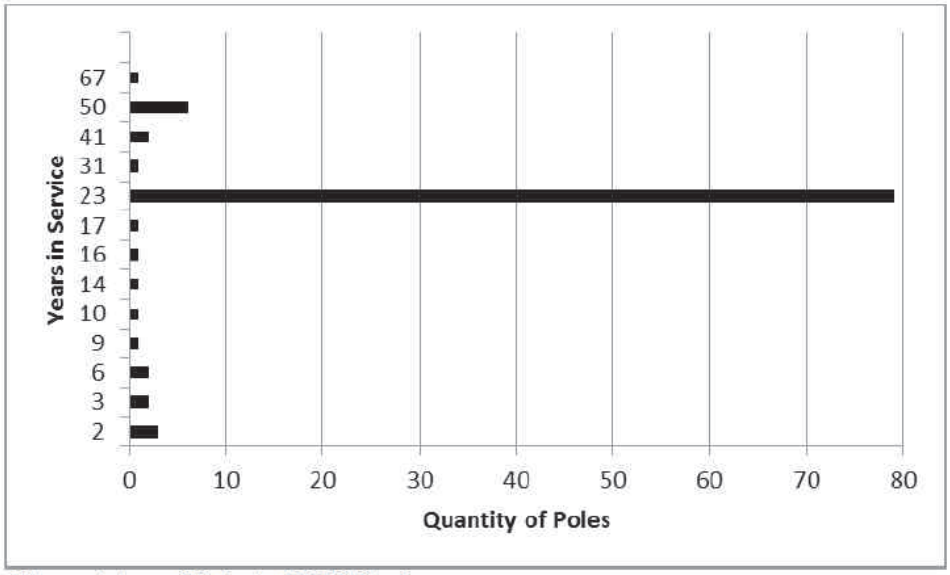

Figure 1 Age of Poles in BVES Study

With calculations run at 100% remaining strength (i.e., the revised calculations I requested from BVES), shown below in Table 3 are the quantities of poles in each range category which meet various safety factor criteria.

Table 3 GO 95 Compliance at 100% Remaining Strength

Criteria	Remaining Pole Strength (S) Range			Total
	Range 1	*Range 2*	*Range 3*	
Poles w/ S.F. ≤ 1.00	11	0	0	**11**
Poles w/ S.F. < 2.67	64	0	3	**67**
Poles w/ S.F. ≥ 2.67	30	0	2	**32**

Of the 99 poles, assuming all of the poles retained 100% of their strength, 67 poles (approximately 68%) fail to meet the minimum required safety factor of 2.67. In its study, BVES failed an additional five (5) poles, bringing the total number of failed poles to 72. However, those additional five (5) poles were failed due to having inadequate guy wires, and those guy wires can be easily replaced to remedy the GO 95 issues, thus they were not included as failed poles in this assessment. 11 of the 67 poles that failed have safety factors less than or equal to 1.0. A safety factor of less than 1.0 indicates that the pole would fail even before the referenced wind and ice loads is fully applied. This indicates that given the loading conditions provided for a "Heavy Loading" district in conjunction with the current load from existing facilities on those 11 poles, exceed the capacity of those poles to withstand these loads, even if there was no material degradation of the pole (i.e. the poles retained 100% of their original strength value), which would even further reduce its capacity to withstand load.

Similarly, presented in Tables 4 and 5 are GO 95 compliance assessments for Range 1 and Range 3 poles, respectively. Note, there is no table provided for Range 2 poles, since none of the poles in the BVES study were identified as Range 2 poles.

Table 4 GO 95 Compliance for Range 1 Poles

Criteria	Remaining Pole Strength (S) – Range 1	Average

	Top Range	*Mid Range*	*Bottom Range*	
Poles w/ S.F. ≤ 1.00	11	13	15	13.0
Poles w/ S.F. < 2.67	64	66	73	67.7
Poles w/ S.F. ≥ 2.67	30	28	21	26.3

Table 5 GO 95 Compliance of Range 3 Poles

Criteria	Remaining Pole Strength (S) – Range 3			Average
	Top Range	*Mid Range*	*Bottom Range*	
Poles w/ S.F. ≤ 1.00	1	2	5	2.7
Poles w/ S.F. < 2.67	5	5	5	5.0
Poles w/ S.F. ≥ 2.67	0	0	0	0.0

The assessment results provided in Tables 4 and 5 represent poles identified by BVES as falling within the remaining percentage strength ranges, Range 1 or Range 3, and which meet various safety factor criteria, when de-rating factors corresponding to remaining percentage strength values, as identified in Table 1, are applied. For Range 1 poles, anywhere from 64 – 73 poles, depending on where in the range they fall, fail to comply with minimum GO 95 strength requirements (i.e., safety factor < 2.67), representing 68% - 78% of Range 1 poles. The average number of poles that would fail in Range 1 is approximately 68 poles, representing over 72% of Range 1 poles. For Range 3 poles, all five (100%) fail to meet minimum GO 95 strength requirements at all range levels.

There may be a multitude of reasons why such a high percentage (approximately 65%) of poles in this study fail to comply with GO 95 minimum strength requirements, even under the most favorable conditions. One possible reason may be poor planning and design on part of BVES. Evidence of this can be seen as four (4) of the 64 Range 1 poles which failed to meet minimum GO 95 strength requirements were installed within the past ten years. Two of those failed poles were installed within the past three years. Such recent installations, if properly designed, should not fail to meet minimum strength requirements, as GO 95, Rule 44.3 provides for a one-third reduction in safety factor prior to violation, unless the poles are being used differently than they were designed for. Another potential reason for the high failure rate of poles in the BVES' study is that there may have been additional facilities, such as communications cables, later added to the poles, which were never taken into account when originally designing the poles to determine the required pole specifications (i.e., pole height, class, etc.) for compliance. Finally, if the poles were designed properly and anticipated the potential for addition of communication facilities, an alternate potential explanation of the high failure rate of these poles can be due to construction deviations. At times, when a pole is designed and specified by the engineering department, unanticipated changes are made by construction staff during the construction process. Design changes by construction personnel have been known to happen relatively frequently in utility construction, however these changes are typically conservative in nature (e.g., going from a smaller to larger pole) and would yield a "safer" result (i.e., higher safety factor). Typically, construction personnel have been in their line of work for many years and, as such, have vast working knowledge of the relationship between various aspects of utility facility design and construction. Although intended to improve safety and reliability of the design, field changes deviating from the original design, by construction personnel, can sometimes have unanticipated adverse effects on the system.

5.0 Additional Assessment Needed

This assessment was completed using data and calculations provided by BVES and its consultant, with modifications to certain assumptions or data as requested by SED. The provided calculations and data inputs, however, were not field verified by SED staff, as is typically the case when assessing the validity of pole load calculations. Field verifications did not take place due to several factors, primary to which were the time constraints by which testimony was to be submitted and my existing

work and travel schedule. Nevertheless, to provide a more thorough assessment, I would still like to field visit a selection of the poles along BBB to verify the accuracy of certain measured data inputs which have a profound impact on the safety factor value resulting from the pole load calculation. The key data input to verify is the measurements used for the groundline circumference of the pole. As it sounds, the groundline circumference of a pole is the measurement of the circumference of a pole at the location where it protrudes from the ground (i.e., groundline). The reason this measurement is so critical is because of the manner in which it is applied to the pole load calculation. When conducting a pole load calculation, the groundline circumference measurement is applied as a cubic function (i.e., it is multiplied with itself three times). No other data input is cubed during the course of the calculation, hence the groundline circumference measurement significantly impacts the final safety factor value more greatly than any other data input used. Because wood is not an engineered material and is naturally occurring, it does not have one set value for its mechanical strength properties (i.e., yield strength, rupture strength, modulus of elasticity, etc.). Instead those values are determined empirically through various testing methods and a range of possible values are established. Typically, to accommodate for this variation in mechanical strength properties, most utilities refer to and use minimum groundline circumference values provided by the American National Standards Institute (ANSI), whom tests and tabulates mechanical strength properties for various classes and heights of poles.

Due to the high failure rate of poles in this study, I would like to verify a random sampling of the groundline circumference measurements used in the BVES study before providing a final assessment. SED is currently scheduled to audit BVES facilities in late November 2013, and I am assigned as the lead auditor. If it is agreeable to parties of this proceeding, I can take a day or two away from my typical audit activities to complete the verification of groundline circumference measurements for poles along BBB, and then provide a final assessment. The outcome of the verification will either be a confirmation of the results provided herein or a second assessment with modified data inputs for groundline circumference.

Appendix 2-SED's Supporting Spreadsheet

	Pole	Year Installed	G.L. Circ. (in.)	Guying Status	Pole Total Stress Factor of Safety (@ 100% R.S.	Pole Passed/Failed Wind Loading	Intec	Top Range S.F.	Mid-Range S.F.	Bottom Range S.F.
1	3742BV	1946	39	UNGUYED	0.66	Failed	85%+	0.66	0.62	0.57
2	400669CIT	1963	37	UNGUYED	1.40	Failed	85%+	1.40	1.31	1.21
3	31627CIT	1963	38	Guy Wires & Anchor Adequate	2.47	Failed	85%+	2.47	2.29	2.12
4	63239CTC	1982	35	UNGUYED	1.24	Failed	69%-	0.86	0.58	0.31
5	10753BV	1990	42	UNGUYED	0.58	Failed	85%+	0.58	0.54	0.50
6	10670BV	1990	45	UNGUYED	0.60	Failed	85%+	0.60	0.55	0.51
7	1211636CTC	1990	41	UNGUYED	0.63	Failed	85%+	0.63	0.59	0.54
8	10664BV	1990	43	Guy Wire Adequate	0.71	Failed	85%+	0.71	0.66	0.61
9	10797BV	1990	46	UNGUYED	0.72	Failed	85%+	0.72	0.67	0.62
10	10791BV	1990	44	Guy Wires & Anchor Adequate	0.76	Failed	85%+	0.76	0.71	0.66
11	10668BV	1990	41	UNGUYED	0.95	Failed	85%+	0.95	0.88	0.81
12	10686BV	1990	37.7	UNGUYED	1.00	Failed	85%+	1.00	0.93	0.86
13	10391BV	1990	43	Guy Wire & Anchor Adequate	1.02	Failed	85%+	1.02	0.95	0.87
14	10675BV	1990	42.5	Guy Wire Adequate	1.06	Failed	85%+	1.06	0.98	0.91
15	10756BV	1990	40.14	Guy Wires Adequate	1.09	Failed	85%+	1.09	1.01	0.94
16	10659BV	1990	40	UNGUYED	1.19	Failed	85%+	1.19	1.11	1.03
17	10798BV	1990	44.8	Guy Wire & Anchor Adequate	1.21	Failed	85%+	1.21	1.13	1.04
18	10655BV	1990	46	UNGUYED	1.22	Failed	85%+	1.22	1.13	1.05
19	10667BV	1990	41	UNGUYED	1.77	Failed	69%-	1.22	0.83	0.44
20	10673BV	1990	41	UNGUYED	1.33	Failed	85%+	1.33	1.24	1.14
21	10789BV	1990	44	UNGUYED	1.36	Failed	85%+	1.36	1.26	1.17
22	10654BV	1990	41	UNGUYED	1.38	Failed	85%+	1.38	1.28	1.18
23	10698BV	1990	39.5	Guy Wires Adequate	1.42	Failed	85%+	1.42	1.32	1.22
24	10684BV	1990	40	UNGUYED	1.52	Failed	85%+	1.52	1.41	1.31
25	10666BV	1990	42	UNGUYED	1.55	Failed	85%+	1.55	1.44	1.34
26	10685BV	1990	35.5	UNGUYED	1.59	Failed	85%+	1.59	1.48	1.37

	Pole	Year Installed	G.L. Circ. (in.)	Guying Status	Pole Total Stress Factor of Safety (@ 100% R.S.	Pole Passed/Failed Wind Loading	Intec	Top Range S.F.	Mid-Range S.F.	Bottom Range S.F.
27	10785BV	1990	43	UNGUYED	1.61	Failed	85%+	1.61	1.49	1.38
28	10699BV	1990	40.14	Guy Wires Adequate	1.68	Failed	85%+	1.68	1.56	1.44
29	10652BV	1990	40.5	UNGUYED	1.70	Failed	85%+	1.70	1.58	1.46
30	10662BV	1990	41	UNGUYED	1.77	Failed	85%+	1.77	1.65	1.52
31	10683BV	1990	40	Guy Wire Adequate	1.82	Failed	85%+	1.82	1.69	1.57
32	10660BV	1990	46	Guy Wires & Anchor Adequate	2.64	Failed	69%-	1.82	1.24	0.66
33	10691BV	1990	42	Guy Wire Inadequate	1.89	Failed	85%+	1.89	1.76	1.63
34	10760BV	1990	39	Guy Wires & Anchor Adequate	1.99	Failed	85%+	1.99	1.85	1.71
35	10692BV	1990	42	Guy Wires Adequate	2.00	Failed	85%+	2.00	1.86	1.72
36	10682BV	1990	40	UNGUYED	2.02	Failed	85%+	2.02	1.88	1.74
37	10757BV	1990	43.12	UNGUYED	2.07	Failed	85%+	2.07	1.92	1.78
38	10693BV	1990	43.12	Guy Wire Adequate	2.08	Failed	85%+	2.08	1.93	1.79
39	10674BV	1990	43	UNGUYED	2.11	Failed	85%+	2.11	1.96	1.81
40	10681BV	1990	42	UNGUYED	2.11	Failed	85%+	2.11	1.96	1.81
41	10661BV	1990	39	Guy Wires & Anchor Adequate	2.13	Failed	85%+	2.13	1.98	1.84
42	10658BV	1990	42	UNGUYED	2.16	Failed	85%+	2.16	2.01	1.86
43	10755BV	1990	37.65	Guy Wires Adequate	2.16	Failed	85%+	2.16	2.01	1.86
44	10695BV	1990	40.14	Guy Wires Adequate	2.20	Failed	85%+	2.20	2.04	1.89
45	10696BV	1990	39	Guy Wires Adequate	2.25	Failed	85%+	2.25	2.10	1.94
46	10657BV	1990	40	Guy Wires & Anchor Adequate	2.27	Failed	85%+	2.27	2.11	1.95
47	10680BV	1990	42	UNGUYED	2.29	Failed	85%+	2.29	2.13	1.97
48	10697BV	1990	41	Guy Wire Adequate	2.32	Failed	85%+	2.32	2.16	2.00
49	10763BV	1990	44.63	Guy Wires Adequate	2.32	Failed	85%+	2.32	2.16	2.00
50	10672BV	1990	42	Guy Wire Adequate	2.39	Failed	85%+	2.39	2.23	2.06
51	10700BV	1990	40.14	Guy Wires Adequate	2.40	Failed	85%+	2.40	2.23	2.06
52	10783BV	1990	47	UNGUYED	2.40	Failed	85%+	2.40	2.24	2.07

	Pole	Year Installed	G.L. Circ. (in.)	Guying Status	Pole Total Stress Factor of Safety (@ 100% R.S.	Pole Passed/Failed Wind Loading	Intec	Top Range S.F.	Mid-Range S.F.	Bottom Range S.F.
53	10784BV	1990	47.61	UNGUYED	2.44	Failed	85%+	2.44	2.27	2.10
54	10694BV	1990	40.14	Guy Wires Inadequate	2.47	Failed	85%+	2.47	2.30	2.13
55	10603BV	1990	41	UNGUYED	2.51	Failed	85%+	2.51	2.33	2.16
56	10790BV	1990	44	UNGUYED	2.52	Failed	85%+	2.52	2.34	2.17
57	10317BV	1990	40.5	Guy Wire & Anchor Adequate	2.61	Failed	85%+	2.61	2.43	2.25
58	10796BV	1990	44.63	Guy Wire Adequate	2.63	Failed	85%+	2.63	2.45	2.26
59	10688BV	1990	40.14	UNGUYED	2.64	Failed	85%+	2.64	2.46	2.27
60	10952BV	1990	47.61	UNGUYED	2.66	Failed	85%+	2.66	2.48	2.29
61	10218BV	1996	35	Guy Wires Near Capacity	2.05	Failed	85%+	2.05	1.90	1.76
62	10584BV	1997	42	UNGUYED	0.75	Failed	85%+	0.75	0.70	0.65
63	11173BV	1999	41.5	Guy Wires & Anchors Adequate	0.95	Failed	85%+	0.95	0.88	0.81
64	11430BV	2003	44	Guy Wires Near Capacity	1.35	Failed	85%+	1.35	1.25	1.16
65	11518BV	2004	41	Guy Wires Near Capacity	1.09	Failed	85%+	1.09	1.01	0.93
66	11939BV	2010	42	Guy Wire Adequate	1.77	Failed	85%+	1.77	1.64	1.52
67	12070BV	2011	50	UNGUYED	2.21	Failed	85%+	2.21	2.06	1.90
68	10761BV	1990	42.98	Guy Wires Inadequate	2.76	GW Failed	85%+	2.76	2.57	2.38
69	10656BV	1990	45	Guy Wires Inadequate	3.35	GW Failed	85%+	3.35	3.12	2.88
70	10782BV	1990	50	Guy Wires Inadequate	3.80	GW Failed	85%+	3.80	3.54	3.27
71	10758BV	1990	43.12	Guy Wires Inadequate	4.15	GW Failed	85%+	4.15	3.86	3.57
72	12038BV	2011	42	Guy Wires Inadequate	4.56	GW Failed	85%+	4.56	4.24	3.93
73	400664CIT	1963	37	Guy Wires Adequate	2.87	Passed	85%+	2.87	2.67	2.47
74	400662CIT	1963	37.5	UNGUYED	2.88	Passed	85%+	2.88	2.68	2.47
75	400663CIT	1963	38	UNGUYED	3.05	Passed	85%+	3.05	2.84	2.63
76	400665CIT	1963	38	Guy Wires & Anchor Adequate	5.87	Passed		4.05	2.76	1.47
77	1210206CTC	1972	34	Guy Wire Adequate	3.02	Passed	85%+	3.02	2.81	2.60
78	62560CTC	1972	37.5	Guy Wires Near Capacity	7.76	Passed	85%+	7.76	7.22	6.68

	Pole	Year Installed	G.L. Circ. (in.)	Guying Status	Pole Total Stress Factor of Safety (@ 100% R.S.	Pole Passed/Failed Wind Loading	Intec	Top Range S.F.	Mid-Range S.F.	Bottom Range S.F.
79	12158BV	1990	43	UNGUYED	2.86	Passed	69%-	1.97	1.34	0.71
80	10669BV	1990	41	UNGUYED	3.30	Passed	69%-	2.27	1.55	0.82
81	10762BV	1990	47.61	UNGUYED	2.74	Passed	85%+	2.74	2.55	2.36
82	10793BV	1990	43	Guy Wires & Anchor Adequate	2.87	Passed	85%+	2.87	2.67	2.47
83	10795BV	1990	44.63	Guy Wire Adequate	3.05	Passed	85%+	3.05	2.83	2.62
84	10759BV	1990	48	Guy Wires Near Capacity	3.07	Passed	85%+	3.07	2.85	2.64
85	12159BV	1990	37	Guy Wires & Anchor Adequate	3.17	Passed	85%+	3.17	2.95	2.72
86	10678BV	1990	42	UNGUYED	3.30	Passed	85%+	3.30	3.07	2.84
87	10687BV	1990	45	UNGUYED	3.52	Passed	85%+	3.52	3.27	3.03
88	10787BV	1990	50.59	UNGUYED	3.76	Passed	85%+	3.76	3.49	3.23
89	10690BV	1990	46.1	UNGUYED	3.78	Passed	85%+	3.78	3.51	3.25
90	1211635CTC	1990	53	UNGUYED	3.78	Passed	85%+	3.78	3.52	3.25
91	10653BV	1990	42	Guy Wires Near Capacity	3.88	Passed	85%+	3.88	3.60	3.33
92	10788BV	1990	50.59	UNGUYED	3.97	Passed	85%+	3.97	3.69	3.41
93	12300BV	1990	53.57	Guy Wires & Anchor Adequate	6.34	Passed		4.38	2.98	1.59
94	10754BV	1990	40.14	Guy Wire Adequate	4.53	Passed	85%+	4.53	4.21	3.89
95	10689BV	1990	47	UNGUYED	5.01	Passed	85%+	5.01	4.66	4.31
96	10794BV	1990	43	Guy Wires & Anchor Adequate	7.42	Passed	85%+	7.42	6.90	6.38
97	10792BV	1990	44.63	Guy Wires & Anchors Adequate	8.07	Passed	85%+	8.07	7.50	6.94
98	11519BV	2007	40	Guy Wires & Anchors Adequate	3.19	Passed	85%+	3.19	2.97	2.74
99	12290BV	2007	44	Guy Wires & Anchor Adequate	4.86	Passed	85%+	4.86	4.52	4.18
100	11981BV	2010	44.8	Guy Wires & Anchor Adequate	3.62	Passed	85%+	3.62	3.36	3.11
101	12071BV	2011	50.5	UNGUYED	3.88	Passed	85%+	3.88	3.61	3.34

Appendix 3-BVES' Response to Data Request DRA-046-MKB

DATA REQUEST RESPONSE
Bear Valley Electric Service
General Rate Case Application
A.12-02-013

Response provided by:	Karuna Warren
Title:	Operations and Planning Manager
Data Request Number:	DRA-046-MKB
Date Received:	September 13, 2013
Date Due:	September 20, 2013
Date Provided:	September 20, 2103

DRA sent Data Request DRA-046-MKB to BVES on Friday, September 13, requesting a shortened response time of September 20, 2013. BVES promptly began to research its records in an effort to respond by DRA's shortened response deadline. The data and responses provided herein were made based upon research of BVES files that were limited not only by the time afforded by DRA to respond, but also based upon the manner in which the majority of BVES' records have been filed and the availability of qualified administrative staff to conduct the research. This is a particularly busy and challenging time of year for BVES' very small professional/administrative staff. They are urgently managing and overseeing a relatively large number of capital additions projects to the BVES system. Because BVES' service territory is located high in the San Bernardino mountains, all construction projects must be completed prior to the rapidly approaching winter season. In addition to an extremely busy but small professional/administrative staff, BVES records, information, drawings, *etc.* historically have not been filed or maintained on a line-by-line or pole-by-pole basis. Rather, they have been maintained on a work-order (larger projects) or job-order (smaller projects) basis for BVES' entire system (*i.e.*, all of the poles, transformers and other facilities/equipment). BVES estimates that there may be anywhere between 200 to 500 work orders per year and anywhere between 2,000 to 5,000 job orders per year in its records. Work orders could be approximately 50 pages or more in length, while job orders could be approximately 5 pages or less in length. Depending upon how many years of records were involved and the number of pages in each job or work order, hundreds of thousands of pages of records might need to be reviewed in order for BVES to answer some of DRA's question with a high degree of confidence. The answers and documents provided herein are subject to the limited time and resources available, as well as the historical format of BVES' records, as described above.

Please provide the following items:

1. ***Please identify who owns each of the power poles along Bear Valley Boulevard that failed GO 95 standards.***

Response: BVES objects to this request in that it seeks information that is irrelevant to, and beyond the limited scope of, the new information (i.e., wind loading reports) relating to BVES' proposed Big Bear Boulevard Undergrounding Project. In addition, the question is vague when referring to power poles along Big Bear Boulevard that failed GO 95 standards. There are two wind loading studies which identify different power poles as failing GO 95 standards. Without waiving its objections, BVES states that all of the poles in Exhibit BVES-35 are jointly owned by BVES and Verizon except the following: SVC.Pole 1, Guy Pole 1, Guy Pole 2, Guy Pole 3, Guy Pole 4, Guy Pole 5, Guy Pole 6, Guy Pole 7 and Guy Pole 8, Guy Pole 9, Guy Pole 10 and SVC.Pole 2, and poles 12158BV, and 12300BV.

2. ***Please set up a conference call with a Bear Valley engineer who is familiar with the process Bear Valley follows for the replacement, design and construction of power poles along Bear Valley Boulevard.***

Response: BVES objects to this request in that it seeks information that is irrelevant to, and beyond the limited scope of, the new information (i.e., wind loading reports) relating to BVES' proposed Big Bear Boulevard Undergrounding Project. Also, in a telephone conversation on September 12, 2013 between DRA's Mark Bumgardner and BVES' GRC project manager David Morse, Mr. Morse informed Mr. Bumgardner that BVES would respond to written questions submitted as data requests and, as a matter of policy, BVES does not set up interviews between interveners and BVES staff regarding matters that are subject to a formal Commission proceeding. Furthermore, for matters that are subject to a formal Commission proceeding, BVES personnel are not authorized to provide information outside of formal discovery procedures authorized by applicable California law or Commission Rules of Practice and Procedure.

3. ***Provide a detailed discussion of each step of the process Bear Valley followed, from the identification of power poles that it replaced along Big Bear Boulevard and that fail GO 95 standards, through design, construction and installation.***

Response: BVES objects to this request in that it seeks information that is irrelevant to, and beyond the limited scope of, the new information (i.e., wind loading reports) relating to BVES' proposed Big Bear Boulevard Undergrounding Project. Information that relates to the original construction of the poles is irrelevant to, and beyond the limited scope of this phase of the proceeding, as set forth in the Amended Assigned Commissioner's Scoping Memo and Ruling. And undertaking a thorough review of BVES' records going back to 1946 (the date of the oldest pole identified in Exhibit BVES-35) would be unduly burdensome and oppressive to BVES. Without waiving its objections to the question, BVES undertook a review of its records in an effort to identify and produce documents and information responsive to this question. Based upon BVES' research to date, BVES has found no records that indicate what process BVES followed to identify power poles that it replaced along Big Bear Boulevard and that failed GO 95 standards.

4. ***For pole 12038BV, installed in 2011, please provide a step-by-step account of how and why this pole was selected for replacement, and provide a detailed description of the design/engineering process (including a copy of the original blue prints), and the construction and installation process.***

    a. ***Please also identify which, if any, other entities modified or placed equipment on that pole and when, and how those modifications impacted the power pole's GO 95 safety rating.***

    Response: BVES objects to this request in that it seeks information that is irrelevant to, and beyond the limited scope of, the new information (i.e., wind loading reports) relating to BVES' proposed Big Bear Boulevard Undergrounding Project. Information that relates to the original construction of the poles is irrelevant to, and beyond the limited scope of this phase of the proceeding, as set forth in the Amended Assigned Commissioner's Scoping Memo and Ruling. Without waiving its objections to the question, BVES undertook a review of its records in an effort to identify and produce documents and information responsive to this question. Based upon a review of the records to date relating to pole 12038BV that were located in BVES' files, it appears that the following events occurred. Pole 12038BV was selected for replacement as part of a street widening project undertaken by the City of Big Bear Lake. Field visits were completed to select a good location for the pole relocation. BVES' engineering department gathered geographic information system (GIS) data on the subject pole and analyzed whether any of the attached equipment or wires needed to be changed in conjunction with the pole replacement. After taking into account property rights, tension, wind and clearance requirements of GO 95, and other design criteria, the engineering department identified the size and class of the replacement pole. The necessary information was placed on a drawing and given to the construction department for review. Upon completion of construction department review, a drawing was approved for construction. A BVES construction crew was then assigned to install the replacement pole and related equipment in accordance with the approved drawing. Based upon a review of the records to date, no information was found regarding when third-party equipment was attached to the pole or how those attachments impacted the pole's GO 95 safety rating. BVES does not have the necessary equipment to electronically or physically copy all the drawings and prints relating to pole 12038BV that were located in the files. BVES has undertaken steps to have copies made for DRA and expect to deliver such copies to DRA via overnight express by September 25 or September 26.

5. ***For pole 10695BV, installed in 1990, please provide a step-by-step account how and why this pole was selected for replacement, and provide a detailed description of the design/engineering process (including a copy of the original blue prints), and the construction and installation process.***

a. ***Please also identify which, if any, other entities modified or placed equipment on that pole, and when and how those modifications impacted the power pole's GO 95 safety rating.***

Response: BVES objects to this request in that it seeks information that is irrelevant to, and beyond the limited scope of, the new information (i.e., wind loading reports) relating to BVES' proposed Big Bear Boulevard Undergrounding Project. Information that relates to how and why this 23 year-old pole was selected for replacement and provide a detailed description of the design/engineering process (including a copy of the original blue prints), and the construction and installation process for this 23 year-old pole is irrelevant to, and beyond the limited scope of this phase of the proceeding, as set forth in the Amended Assigned Commissioner's Scoping Memo and Ruling. And undertaking a thorough review of BVES' records going back to 1990 or earlier would be unduly burdensome and oppressive to BVES. Without waiving its objections to the question, BVES undertook a review of its records in an effort to identify and produce documents and information responsive to this question. Based upon BVES' research to date, BVES found some prints and documents relating to pole 10695BV. Based upon a review to date of those prints and documents, no information was found that provides a step-by-step account of how and why this pole was selected for replacement or that provides a detailed description of the design/engineering, construction and installation process for this pole. Nor did the review find any information that identifies when or how third-party equipment attached to the pole impacted the pole's GO 95 safety rating. BVES does not have the necessary equipment to electronically or physically copy all the prints and documents relating to pole 10695BV that were located in the files. BVES has undertaken steps to have copies made and expect to deliver such copies to DRA via overnight express by September 25 or September 26.

6. ***Provide a detailed description of the processes or procedures other entities followed when modifying or placing equipment on Bear Valley's power poles along Big Bear Boulevard. This should include, but not be limited to, a description of how Bear Valley was notified of the changes, and what steps Bear Valley took to ensure that the changes would not affect the pole's GO 95 safety rating.***

Response: BVES objects to this request in that it seeks information that is irrelevant to, and beyond the limited scope of, the new information (i.e., wind loading reports) relating to BVES' proposed Big Bear Boulevard Undergrounding Project. Information that relates to processes or procedures other entities followed when modifying or placing equipment on BVES' power poles along Big Bear Boulevard is irrelevant to, and beyond the limited scope of this phase of the proceeding, as set forth in the Amended Assigned Commissioner's Scoping Memo and Ruling. And undertaking a thorough review of BVES' records going back to 1946 (the date of the oldest pole identified in Exhibit BVES-35) in an effort to identify processes or procedures other entities followed when modifying or placing equipment on BVES' power poles along Big Bear Boulevard would

be unduly burdensome and oppressive to BVES. Without waiving its objections to the question, BVES undertook a review of its records in an effort to identify and produce documents and information responsive to this question. Based upon the review of BVES' records to date, no information was located that provides a detailed description of the processes or procedures other entities followed when modifying or placing equipment on BVES' poles along Big Bear Boulevard.

7. ***Please explain how other entities that modify or place equipment on Bear Valley's poles along Big Bear Boulevard compensate Bear Valley Electric for the use of the poles.***

Response: BVES objects to this request in that it seeks information that is irrelevant to, and beyond the limited scope of, the new information (i.e., wind loading reports) relating to BVES' proposed Big Bear Boulevard Undergrounding Project. Information that relates to compensation paid by other entities to modify or place equipment on BVES' poles along Big Bear Boulevard or how this information is reflected in BVES' rates is irrelevant to, and beyond the limited scope of this phase of the proceeding, as set forth in the Amended Assigned Commissioner's Scoping Memo and Ruling. Without waiving its objections to the question, BVES provides three documents, which provide the terms of compensation for joint pole usage:

1. "Southern California Joint Pole Committee Routine Handbook, 2012 Edition." This document provides the compensation terms used by BVES for joint ownership of poles with other entities, such as Verizon telecommunications.
2. "Pole Attachment and Conduit License" with Freedom Telecom, dated November 2012.
3. "Pole License Agreement Between Bear Valley Electric and Charter Communications" dated October 2000.

   a. ***Please explain how, if at all, this compensation is reflected in Bear Valley Electric's rates.***

Response: The following table summarizes the recorded values for Joint Pole Revenues for 2003 through 2010 as included in the BVES workpapers in Application No. 08-06-034 (the previous GRC), Application No. 12-02-013 (the current GRC), and BVES' 2011 recorded values. These data summarize the total joint pole compensation received by BVES for its entire system.

Year	Joint Pole Revenues
2003	$45,000
2004	$45,000

2005	$45,000
2006	$162,949
2007	$59,866
2008	Zero
2009	$157,228
2010	$98,101
2011	$83,682
2012	$95,629
2013	$95,629

Notes regarding table:

1. Values for 2003 to 2005 are taken from BVES workpapers supporting the settlement in the previous GRC, A.08-06-034, Excel document entitled "1 WPs to Attach A-Settlement RO – April 23rd NOON sent to DRA, tab 5 OOR Proposed." For easy reference, please see the PDF entitled "2006 GRC workpaper excerpt."
2. Values for 2006 through 2010 are taken from the BVES workpapers supporting BVES' recommendations for the other operating revenue forecast, which was approved by DRA. The workpapers were previously provided to the City/BBARWA, Excel document "Vol 2, chapter 4 REVENYE MODEL-phase 1, tab#13 OOR by Category," row 8, columns AF through AM. For easy reference, please see the PDF entitled "Vol 2 Chapter 4 Revenue model Tab 12 excerpt."
3. The 2011 recorded values were not available when BVES filed its GRC application.
4. The 2012 values above is the forecast value proposed by BVES for 2013 and approved by DRA.

Note that the Joint Pole revenue is one of several components included in the revenue category "Miscellaneous Revenues or Other Operating Revenues." DRA reviewed BVES' recorded and forecast other operating values and recommended adoption of BVES' entire forecast of miscellaneous revenues or other operating revenues, including the value of $95,629 for Joint Pole revenues for test year 2013. [1]

[1] See Exhibit DRA-03, page 6 and page 7.

8. ***Please explain, and provide supporting documentation of, whatever arrangements Bear Valley has with other entities modifying or placing equipment on Bear Valley Electric's poles if after the modification or placement of additional equipment, the pole fails to meet GO 95 standards.***

Response: BVES objects to this request in that it seeks information that is irrelevant to, and beyond the limited scope of, the new information (i.e., wind loading reports) relating to BVES' proposed Big Bear Boulevard Undergrounding Project. Information that relates to arrangements BVES has with other entities modifying or placing equipment on BVES' power poles and its impact on meeting GO 95 standards is irrelevant to, and beyond the limited scope of this phase of the proceeding, as set forth in the Amended Assigned Commissioner's Scoping Memo and Ruling. Without waiving its objections to the question, refer to the three documents referenced in the response to question 7.